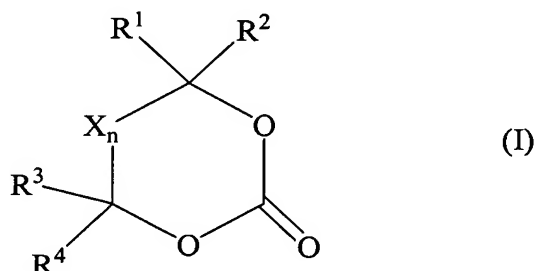


# **REMARKS**

Applicants respectfully request reconsideration of the application, as amended, in view of the following remarks.

The present invention as set forth in **Claim 1** relates to a process for the catalytic hydroformylation of an olefinically unsaturated compound having from 3 to 24 carbon atoms using **an unmodified catalyst comprising rhodium**, wherein the hydroformylation is carried out in the presence of a cyclic carbonic ester of the formula I



where

$R^1, R^2, R^3, R^4$  are identical or different and are each H or a substituted or unsubstituted aliphatic, alicyclic, aromatic, aliphatic-alicyclic, aliphatic-aromatic or alicyclic-aromatic hydrocarbon radical having from 1 to 27 carbon atoms,

$n$  is 0 - 5

$X$  is a divalent substituted or unsubstituted, aliphatic, alicyclic, aromatic, aliphatic-alicyclic or aliphatic-aromatic hydrocarbon radical having from 1 to 27 carbon atoms,

**with the proportion of the carbonic ester being at least 1% by weight of the reaction mixture.**

Massie, Drago et al and Maher et al fail to disclose or suggest catalytic hydroformylation in the presence of an unmodified catalyst comprising rhodium and at least 1% by weight of cyclic carbonic ester based on the weight of the reaction mixture.

Massie discloses the use of dicobalt octacarbonyl (see Example II). There is no disclosure or suggestion to use a rhodium catalyst. Further, compared with Co the use of Rh as metal has the advantage, that a higher activity and higher selectivity can be observed.

The catalyst of Drago et al comprises a carrier and a non-volatile film containing a rhodium complex. The non-volatile film comprises triarylphosphine in combination with a second non-volatile liquid film which may be propylene carbonate. See Claims 6-8 of Drago et al. The **amount of propylene carbonate used for this film is very small** and much lower than the claimed at least 1% by weight based on the weight of the reaction mixture. The Examples of Drago et al show that less than 0.3 % of propylene carbonate is used. See Examples 1, 2, 5, and 10 of Drago et al. However, the experiments of the present invention show that by using the claimed amount of propylene carbonate the rhodium precipitation can be prevented because of the stabilizing effect of propylene carbonate. See page 30, lines 11-22. In addition, the process of the present invention shows significantly higher chemoselectivity and allows simple recirculation of the catalyst without deactivation. See specification at page 30, lines 24-28.

Moreover, compared with the process of Drago et al the present invention has the advantage that the catalyst used therein is active without the need of a ligand. It is therefore possible to use higher reaction temperatures than described in Drago et al.

Maher et al does not cure the defects of the primary reference.

Therefore, the rejections over Massie, Drago et al, and Maher et al are believed to be unsustainable as the present invention is neither anticipated nor obvious and withdrawal of these rejections is respectfully requested.

**New Claim 21** excludes the use of cobalt as a catalyst component. The use of cobalt is disclosed at page 1, line 21. The exclusion of cobalt is not new matter. As decided in In re Johnson and Farnham, 558 F.2d 1008 (1977), it is for the inventor to decide what bounds of

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protection he will seek. If a written description in the original specification supported the claims in absence of a limitation, that specification, having described the whole, necessarily describes the part remaining. In the present application, the original claims were fully supported by the written description of the specification. The use of metal of groups 8 to 10 of the Periodic Table of the Elements in the catalyst is disclosed, for example, at page 14, lines 26-27, of the specification. Applicants have narrowed their claims by excluding one of the elements of groups 8 to 10 of the Periodic Table of the Elements. According to Johnson and Farnham, the specification, having described the whole, necessarily describes the part remaining. Thus, Applicants have not created new matter.

Further, the Examples do not use cobalt.

This application presents allowable subject matter, and the Examiner is kindly requested to pass it to issue. Should the Examiner have any questions regarding the claims or otherwise wish to discuss this case, he is kindly invited to contact Applicants' below-signed representative, who would be happy to provide any assistance deemed necessary in speeding this application to allowance.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,  
MAIER & NEUSTADT, P.C.  
Norman F. Oblon

  
Kirsten A. Grueneberg, Ph.D.  
Registration No.: 47,297

Customer Number  
**22850**

Tel: (703) 413-3000  
Fax: (703) 413 -2220  
NFO:KAG: